

Feb. 3, 1959

C. MARTER

2,871,692

GIRDER POCKET FORM BOXES

Filed Sept. 24, 1956

FIG. 1.

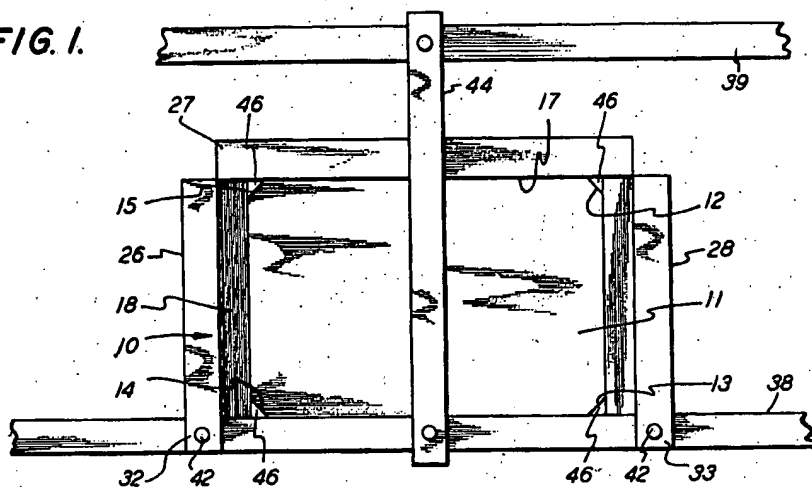


FIG. 2.

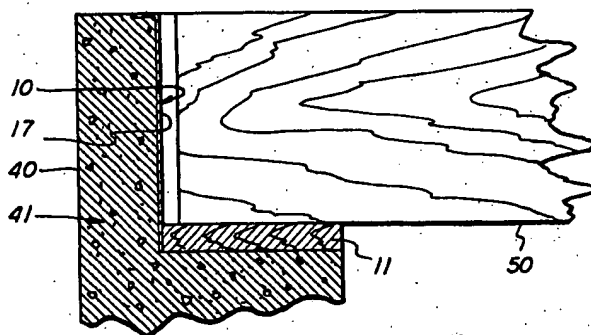
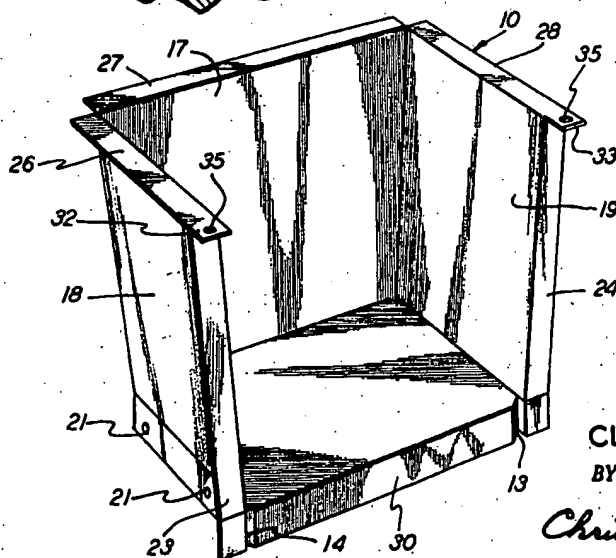


FIG. 3.



INVENTOR  
CLARENCE MARTER

BY

Christie, Parker & Hale  
ATTORNEYS



1

2,871,692

## GIRDER POCKET FORM BOXES

Clarence Marter, Arcadia, Calif.

Application September 24, 1956, Serial No. 611,597

1 Claim. (Cl. 72-108)

The invention relates to structural concrete forming and more particularly to methods and apparatus for forming girder pockets within a foundation wall of the structure.

Conventional practice in building structures calls for girders which extend horizontally between support walls to uphold floor joists. Usually such girders rest in pockets formed in the support wall which is usually concrete. Such girder pockets are best formed by a form box set in the desired place with respect to the foundation support wall forming members before the concrete is poured.

Conventionally such girder pocket form boxes are constructed on the job from short ends of lumber found at the site. Neither the construction of the box itself nor its orientation within the foundation wall forms is accurate.

I have invented a process in which an expendable girder pocket form adapted to accurate mass prefabrication is located precisely within the foundation wall and forms a girder pocket with a self-contained girder sill. A girder pocket form box adapted to use with the process comprises a fibrous base block and relatively thin walls extending upwardly from the base block. Stiffening flanges extend outwardly from each of the wall edges that does not abut the base block or an adjacent companion wall. Simple means are provided for securing the form box to the foundation forms.

Preferably, the opposite side walls diverge outwardly in their upward extent from the base block so that one form box may be nested within another to simplify storage space problems.

The base block may be of redwood or of any wood or fibrous material treated to give protection against deterioration either from moisture or insect penetration. Use of a fibrous base block is unique to my invention. A base block of wood is desirable because most building codes require that the girder itself be separated from the concrete of the foundation wall by some non-deteriorating sill block or spacer. Thus, the base block of the box of the invention serves two functions. Namely, it acts as a part of an expendable form to define the girder pocket and furnishes an acceptable sill for the girder.

In its preferred form the girder pocket form box has a rectangular base block whose vertical edges are chamfered to create air vents defined by the chamfered surfaces and the overlapping metallic walls. The vents provide for the exhausting of air trapped beneath the form box during the pouring of the concrete for the foundation wall.

A simple means for securing the form box to the foundation wall forms comprises lengthened horizontal top flanges projecting beyond non-abutting edges of the metallic walls. Since the conventional girder pocket is open at the top, the extending flanges may coincide with the top surfaces of the foundation wall forms and may be tacked thereto to suspend the form box within the foundation wall form.

Further advantages of the invention will be apparent

2

from the following detailed description and drawing of a preferred embodiment of the invention in which:

Fig. 1 is a plan view of a girder pocket form box in place within the foundation wall forms;

Fig. 2 is a fragmentary sectional elevation illustrating use of the form box; and

Fig. 3 is a perspective view of a preferred embodiment of the invention.

The form box 10 illustrated in Figs. 1 and 3 comprises a rectangular wooden base block 11 having chamfered corners 12, 13, 14 and 15. Metallic back and side walls 17, 18 and 19, respectively are secured to the base block and extend upwardly therefrom. Each wall extends upwardly from the bottom surface of the base block. The overlap of the walls and the base block allows nails or tacks such as nails 21 (Fig. 3) to be driven through the metallic walls into the block.

Preferably, side walls 18 and 19 diverge outwardly as they extend upwardly from the base block. Diverging walls allow for air space about the girder when a larger than average girder spans the base block, as well as for vertical stacking of the form boxes. The three walls may be formed from a single sheet of galvanized metal, both 26 and 28 gauge galvanized iron having been successfully utilized. Other corrosive resistance sheet materials may be used in place of galvanized metal.

The metallic walls and the base block form a box having a vertical open face and a horizontal open face. Vertical stiffening flanges 23, 24 extend outwardly from the edges defining the vertical open face and stiffening flanges 26, 27, 28 extend outwardly from the wall edges defining the horizontal open face of the box. The flanges extend substantially perpendicularly from each wall and reinforce the box against the pressures of the fluid concrete when it is poured around the box.

Front face 30 of the base block is coplanar with flanges 23 and 24 and when the form box is in place, the three denoted surfaces rest flatly against the foundation wall form. A pair of tabs 32, 33 extend forwardly as viewed in Fig. 3 from the horizontal flanges 26, 28. The tabs are preferably integral with the flanges so that the entire metallic portion of the form box may be made from a single sheet of metal. Each tab has a hole 35 through which a tack may be driven into the foundation wall form. The process of the invention improves upon conventional means of forming girder pockets by eliminating the steps of removing the girder pocket form box and inserting a sill block for the girder. As is conventional, forms such as form members 38, 39 of Fig. 1 are installed, and form box 10 is positioned within the forms. Then concrete is poured into the foundation wall forms and about the girder pocket form box. The wall form members are removed when the concrete has set, and the expendable form box is left within the foundation wall so that the base block of the form box may support a girder within the pocket.

Referring once again to Fig. 1, the girder pocket form box is illustrated in place between inner foundation wall form member 38 and outer form member 39. The width of the box is sufficient to provide a good bearing surface for the girder and still leave a substantial thickness of concrete between the rear wall 17 of the form box and the outer wall 40 of a foundation 41 to be poured. The form box is located so that flanges 23, 24 fit against form member 38 and so that tabs 32, 33 overlap form member 38. Tacks 42 are driven through holes 35 in the tabs and into the form member to hold the form box in place with respect thereto. A conventional separator strip or brace 44 may be located centrally of the form box to resist the upward displacement of the box due to the thrust of the fluid concrete.

A plurality of vents 46 are formed by the chamfered



3

surfaces of the base block and the adjoining metallic walls. When the concrete is poured, air trapped between the rising concrete level and the base block is exhausted through the vents 46.

As illustrated in Fig. 2, the form box 10 remains in place within the foundation wall after foundation wall formed members 38 and 39 are stripped from the wall. Wooden base block 11 thus remains to provide an acceptable sill for a girder 50 residing in the girder pocket within the foundation wall. The outward slope of the metallic walls leaves an air space around the girder in further compliance with customary building code requirements.

The stiffening flanges of the form box of the invention strengthen the box so that light, inexpensive material may be used in the manufacture of the box. The wooden base block is simple in configuration and may be easily secured to the metallic walls. No special techniques are required for installation of the form box. Therefore, all the factors in construction or installation of the box make possible an inexpensive, expendable pocket girder form box having the additional advantage of a self-contained girder sill.

The relatively modest expense of each girder form box makes feasible the manufacture of a variety of box sizes. Boxes may thus be designed having rectangular base blocks that are larger than the bearing surface of standard girders so that air space about the girders is provided.

The process of the invention increases substantially the

4

accuracy of girder placement since the required sill block is carefully positioned prior to the pouring of the concrete.

I claim:

A girder pocket form box adapted to be suspended within foundation wall forms comprising a fibrous base block adapted to form a sill block for the girder, a back wall extending upwardly from the base block, a pair of spaced side walls extending upwardly and outwardly from the base block, each wall being fixed at its bottom to the base block to form a box open at one vertical face and at one horizontal face, a stiffening flange extending outwardly from each wall edge defining an open face, and attachment tabs extending from the walls adjacent the foundation wall form edges, the base block having chamfered vertical edges defining with the adjoining form box walls a plurality of vent openings.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

636,982	Hanna	Nov. 14, 1899
796,248	Rieseck	Aug. 1, 1905
1,769,564	Wynkoop	July 1, 1930
2,176,450	Barnett	Oct. 17, 1939
2,206,757	Talalay	July 2, 1940
2,260,155	Schwartz	Oct. 25, 1946

##### FOREIGN PATENTS

525,650	Great Britain	Sept. 2, 1940
---------	---------------	---------------